REMARKS

Claims 1-4, 6, 8-14, 16, 18-24, 26, 28-51 were pending in the Application prior to the outstanding Office Action. In the Listing of Claims, Applicants have amended Claims 1, 11 and 21. Claims 49-51 have been canceled. Claims 52-54 have been added.

In the Office Action, Claims 1, 11 and 21 were rejected under 35 U.S.C. 112, first and second paragraphs, and Claims 1-4, 6, 8-14, 16, 18-24, 26, 28-32, 35-36, 39-40, and 43-51 were rejected under 35 U.S.C. 103(a). Each ground for rejection is discussed below.

I. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §112

In paragraphs 2 – 4 of the Office Action, the Examiner rejected Claims 1, 11 and 21 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In paragraphs 6 – 9 of the Office Action, the Examiner rejected Claims 1, 11 and 21 under 35 U.S.C. 112, second paragraph, as being indefinite.

A. Independent Claims 1, 11 and 21 and dependent claims 52-54 comply with 35 U.S.C. 112, first paragraph.

The Examiner indicates in paragraph 3 that the specification is vague and indefinite and lacks a clear written description of a "first tool" and a "second tool." Applicants respectfully traverse this rejection. Applicants note that Claims 1, 11 and 21 have been amended and no longer recite a "second tool" and that new Claims 52, 53 and 54, which depend on Claims 1, 11 and 21 respectively, recite a "second tool."

The specification makes extensive use of the word "tool" and makes is clear that multiple tools can be managed by the tool management process. In particular see page 1, line 16 – page 2, line 5; page 3, lines 13-16; page 6, lines 12-24; Figure 1, blocks 103A-C; page 8, lines 17-20; page 9, lines 14-16, 26-29; page 13, line 26 – page 14, line3; page 15, lines 1-9, 17-25; page 16 lines 11-25; and page 17, lines 1-3. The specification illustrates that an embodiment of the equipment object model relates to multiple tools and that multiple tools can communicate with an embodiment of the tool server of the present invention. See for example, Figure 1, blocks 103A, 103B, and 103C, and the specification on page 6, lines 16-17, which states that: "[t]ools 103A-C may collectively or individually be referred to as tools 103 or tool 103 respectively." In view of the forgoing Applicants respectfully assert that the claim language of "first tool" and "second tool" are fully supported by the specification and are not vague and indefinite.

The Examiner indicates in paragraph 4 that the specification is vague and indefinite and lacks a clear written description of a "first method" and a "second method." Applicants respectfully traverse this rejection. Applicants note that the word "method" is a term of art in the field of object-oriented programming. A method is a function or procedure. To invoke a method means simply to call a function or procedure in an object-oriented programming language. Note that objects in an object-oriented program have associated with them methods which perform certain functions associated with the objects. This use of the word "method" is clear to those of ordinary skill in the field, and in the specification, and it is clear that an embodiment of the equipment object model of the present invention has associated with it a plurality of methods. In particular, see page 10, lines 9-22; page 12, lines 1-3; page 15, line 28 – page 16, line 3. Applicants further note that Claims 1, 11 and 21 use the phrase "of said ... object" to qualify the terms "first method" and "second method." This makes it clear that the method being invoked is a function or procedure associated with the object. In view of the forgoing Applicants respectfully assert that the claim language of "first method" and "second method" are fully supported by the specification and are not vague and indefinite.

B. Independent Claims 1, 11 and 21 and dependent claims 52-54 comply with 35 U.S.C. 112, second paragraph.

The Examiner indicates in paragraph 7 that it is unclear what are the "first tool" and "second tool." Applicants respectfully traverse this rejection. Applicants note that Claims 1, 11 and 21 have been amended and no longer recite a "second tool" and that new Claims 52, 53 and 54, which depend on Claims 1, 11 and 21 respectively, recite a "second tool."

As noted above with respect to the rejection based on 35 U.S.C. 112, first paragraph, the specification makes extensive use of the word "tool" and makes is clear that multiple tools are managed by the tool management process. In view of the forgoing Applicants respectfully assert that it is clear what are the "first tool" and "second tool".

The Examiner indicates in paragraph 8 that it is unclear what are the "first method" and "second method." Applicants respectfully traverse this rejection. As noted above with respect to the rejection based on 35 U.S.C. 112, first paragraph, the word "method" is a term of art in the field of object oriented programming. In view of the forgoing Applicants respectfully assert that it is clear what are the "first method" and "second method."

The Examiner indicates in paragraph 9 that there in insufficient antecedent basis for the limitation "the same" in Claims 49-51. Applicants have canceled Claims 49-51.

II. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §103(a)

In paragraph 11 of the Office Action, the Examiner rejected Claims 1, 2, 8, 10 – 12, 18, 20 – 22, 28, 30, 43, 45, 47 and 49 – 51, under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,470,227 issued to Rangachari et al. ("*Rangachari*") in view of U.S. Patent No. 6,549,937 issued to Auerbach et al. ("Auerbach").

In paragraph 12 of the Office Action, the Examiner rejected Claims 3 – 4, 6, 9, 13 – 14, 16, 19, 23 – 24, 26, 29, 44, 46 and 48 as being unpatentable over *Rangachari* and Auerbach and further in view of U.S. Patent 6,463,352 issued to Tadokoro et al. ("Tadokoro").

In paragraph 13 of the Office Action, the Examiner rejected Claims 31 – 32, 35 – 36, and 39 – 40 as being unpatentable over *Rangachari* and Auerbach in view of U.S. Patent 6,658,571 issued to O'Brien et al. ("O'Brien").

Ragachari* in view of *Auerbach

A. Independent Claims 1, 11 and 21 are Patently Distinct over *Rangachari* in view of *Auerbach*.

Rangachari describes details of a material handling system in which application objects are used to implement automation tasks. The application objects encapsulate domain knowledge and are used by a workflow engine to perform various semiconductor automation tasks, i.e. to take action in a microelectronic manufacturing process. *Rangachari* is not concerned with facilitating host to tool connections and does not disclose any mechanisms for allowing multiple applications to communicate with multiple tools using multiple protocols. In particular, the communication mechanism disclosed in *Rangachari* for communicating with applications is a message bus. See for example item 8 in Figures 1, 5, 6 and 7 and column 6, lines 25-48. Such communication based on a message bus does not teach or suggest the use of multiple protocols that may be concurrently active to manage the same tool. Thus, the support for flexible connectivity between the host and the tool is not taught or suggested by *Rangachari*.

Independent Claims 1, 11 and 21 recite: "receiving a first message in a first selected protocol" and "receiving a second message in a second selected protocol." *Rangachari* does not

disclose a method for communicating with tools in which such a multi-protocol capability exists. In contrast, in a preferred embodiment of the present invention, application interface units are used to interface client applications to a logical representation of equipment, and tool interfaces are used to interface to actual tools. See for example page 9, line 14 - page 10, line 3 and Figure 3. In this way, the present invention solves the problem of how to integrate multiple client applications utilizing different protocols and support connectivity to tools, a problem not addressed or solved by the disclosure of *Rangachari*.

Auerbach describes an instant messaging system in which a single user interface communicates through a single API to support multiple servers using different protocols. *Auerbach* does not disclose a system that can communicate with multiple clients utilizing different protocols. In particular, *Auerbach* describes a single application program 104, communicating with a conversion platform 112. See Figure 2 and the specification at column 2, lines 33-41; column 4, line 62 – column 5, line 4. These refer to "a client" and "an application program." There is no teaching or suggestion in *Auerbach* of multiple clients running multiple applications communicating using different protocols. Indeed the purpose of conversion platform 112 in *Auerbach* is to communicate with different messaging servers. Furthermore, *Auerbach* does not relate to the field of material handling or automated tool management and is in fact very far removed from this field. There no suggestion within *Auerbach* or *Rangachari* to combine these two references.

Independent Claims 1, 11 and 21 recite: "receiving a first message in a first selected protocol" and "receiving a second message in a second selected protocol." The combination of *Rangachari* with *Auerbach* does not teach or suggest two client applications communicating in two protocols.

Independent Claims 1, 11 and 21 recite, among other things, that the "first message identifies a first object in an equipment model" and that the "second message identifies a second object in said equipment model." The combination of *Rangachari* with *Auerbach* does not teach or suggest a single equipment object model that can receive two different messages from two different client applications.

B. Dependent Claims 2, 8, 10, 12, 18, 20, 22, 28, 30, 43, 45, 47 and 49 – 51 are Patently Discint over *Rangachari* in view of *Auerbach*.

Dependent Claims 2, 8, 10, 12, 18, 20, 22, 28, 30, 43, 45, 47 and 49 – 51 depend directly or indirectly from independent Claims 1, 11 or 21. These dependent claims include all of the limitations of the independent claim from which they depend. Applicants respectfully assert that dependent Claims 2, 8, 10, 12, 18, 20, 22, 28, 30, 43, 45, 47 and 49 – 51 are allowable for at least the reasons set forth above concerning independent Claims 1, 11 and 21.

Ragachari* and *Auerbach* in view of *Tadakoro

C. Dependent Claims 3 – 4, 6, 9, 13 – 14, 16, 19, 23 – 24, 26, 29, 44, 46 and 48 are Patently Distinct over *Rangachari* and *Auerbach* in view of *Tadakoro*.

Dependent Claims 3 – 4, 6, 9, 13 – 14, 16, 19, 23 – 24, 26, 29, 44, 46 and 48 depend directly and indirectly from independent Claims 1, 11 or 21. These dependent claims includes all of the limitations of the independent claim from which they depend. Claims 1, 11 and 21 recite, among other things, "receiving a first message in a first selected protocol," "receiving a second message in a second selected protocol," wherein "said second selected protocol is different than said first selected protocol." Both messages identify objects in "an equipment model of said tool." In other words, the present invention allows different client applications to interface using different protocols to tools represented by a single equipment model.

Ragachari and *Auerbach* in view of *Tadakoro* does not teach or suggest a single equipment model that can accept messages to perform actions on tools from two client applications utilizing two different protocols. Applicants respectfully assert that dependent Claims 3-4, 6, 9 and 44 are not obvious over *Rangachari* in view of *Tadakoro*.

Ragachari* and *Auerbach* in view of *O'Brien

D. Dependent Claims 31 – 32, 35 – 36, and 39 – 40 are Patently Distinct over *Rangachari* and *Auerbach* in view of *O'Brien*.

Dependent Claims 31 – 32, 35 – 36, and 39 – 40 depend directly and indirectly from independent Claims 1, 11 or 21. These dependent claims includes all of the limitations of the independent claim from which they depend. Claim 1 as amended recites, among other things,

"receiving a first message in a first selected protocol," "receiving a second message in a second selected protocol," wherein "said second selected protocol is different than said first selected protocol." Both messages identify objects in "an equipment model of said tool." In other words, the present invention allows different client applications to interface using different protocols to tools represented by a single equipment model.

Ragachari and *Auerbach* in view of *O'Brien* does not teach or suggest a single equipment model that can accept messages to perform actions on tools from two client applications utilizing two different protocols. Applicants respectfully assert that dependent Claims 31-32 are not obvious over *Rangachari* in view of *Tadakoro*.

Additional Remarks

Applicants note that no grounds for rejection of Claims 33 – 34, 37 – 38 and 41 – 42 were presented other than the 35 U.S.C. 112 rejections of the independent claims upon which they depend.

In light of the remarks above, it is respectfully submitted that all of the claims now pending in the subject patent application are allowable, and a Notice of Allowance is requested.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. §1.136 for extending the time to respond up to and including today, Febrary 24, 2006.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-0639 for any matter in connection with this response, including any fee for extension of time or addition of new claims, which may be required.

Respectfully submitted,

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